IN THE CLAIMS

Please amend the claim as follows:

1. (Currently Amended) A semiconductor optical amplifier (SOA) module apparatus for amplifying an optical signal received from an input optical fiber, and transmitting the amplified optical signal to an output optical fiber, comprising:

a semiconductor optical amplifier (SOA) configured to amplify an optical signal applied to its own first stage, to output the amplified optical signal at its own second stage, and to output an ASE (Amplified Spontaneous Emission) light at the first stage;

a first monitor photo-diode;

an input unit having a first isolator that is configured to transmit an input optical signal to the first stage of the SOA, to separate the ASE light received from the first stage of the SOA from a traveling path of the input optical signal at a prescribed angle, and to transmit the ASE light separated from the traveling path through the first isolator and to the first monitor photo-diode;;

wherein the SOA includes a cleaved region for diverting the ASE light from the traveling path of the input optical signal; and

wherein the first monitor photo-diode is configured to receive and detect a power level of the ASE light passing through the first isolator and the first monitor photo-diode is disposed at a predetermined angle relative to the first isolator which is not along an optical axis between the input optical fiber and the SOA; and

an output unit configured to converge the amplified optical signal received from the SOA onto one end of the output optical fiber.

2. (Previously Presented) The apparatus as set forth in claim 1, wherein the input unit includes:

a first collimating lens system configured to face one end of the input optical fiber and to collimate the optical signal;

a first glass window configured to transmit the optical signal collimated at the first collimating lens system to the first isolator; and

a first convergence lens system being disposed between the first isolator and the first stage of the SOA, being configured to converge the optical signal received from the first isolator onto the first stage of the SOA, and being configured to output the ASE light emitted from the first stage of the SOA to the first isolator.

3. (Previously Presented) The apparatus as set forth in claim 1, further including a controller being communicatively connected with the first photo diode and being configured to determine a power level of the optical signal as a function of the detected power level of the ASE light.

4. (Previously Presented) The apparatus as set forth in claim 1, further comprising:

a second monitor photo-diode configured to detect an uncoupled optical signal emitted from the output unit without being transmitted to the one end of the output optical fiber.

5. (Previously Presented) The apparatus as set forth in claim 1, wherein the output unit includes:

a first collimating lens system configured to collimate the amplified optical signal received from the second stage of the SOA;

a second isolator configured to transmit the amplified optical signal received from the second collimating lens system, to separate a partially-uncoupled optical signal from a traveling path of the amplified optical signal at a prescribed angle, and to transmit the uncoupled optical signal separated from the traveling path;

a first convergence lens system being disposed to converge the amplified optical signal received from the second isolator onto one end of the output optical fiber; and

a first glass window being disposed between the second isolator and the second convergence lens system, being configured to transmit the collimated amplified optical signal to the second convergence lens system.

6. (Previously Presented) The apparatus as set forth in claim 5, further comprising a second monitor photo-diode configured to receive and detect a power level of the separated partially-uncoupled optical signal.

7. (Previously Presented) The apparatus as set forth in claim 6, further including a controller being communicatively connected with the second monitor photo-diode and being configured to determine a power level of the amplified optical signal received from the second stage based on the detected power level of the separated partially-coupled optical signal.

8. (Previously Presented) The apparatus as set forth in claim 7, wherein the separation of the optical signal is performed by refracting the optical signal.

9. (Previously Presented) The apparatus as set forth in claim 7, wherein the controller is configured to determine, as a function of the detected power level of the ASE light, a power level

of the optical signal before amplification by the SOA.

10. (Previously Presented) The apparatus as set forth in claim 1, wherein the output unit includes:

a first collimating lens system configured to collimate the amplified optical signal received from the second stage of the SOA;

a first convergence lens system configured to converge the amplified optical signal collimated by the second collimating lens system onto one end of the output optical fiber;

a second isolator being disposed between the second collimating lens system and the second convergence lens system, being configured to transmit the amplified optical signal received from the second collimating lens system to the second convergence lens system, and being configured to cut off optical signals received from the second convergence lens system; and

a first glass window being disposed between the second isolator and the second convergence lens system, being configured to transmit the amplified optical signal received from the second isolator to the second convergence lens system, and being configured to reflect a partially-uncoupled optical signal and to separate it from the traveling path of the amplified optical signal at a prescribed angle.

11. (Previously Presented) The apparatus as set forth in claim 10, further comprising a second monitor photo-diode configured to receive and detect a power level of the reflected partially-uncoupled optical signal.

12. (Previously Presented) The apparatus as set forth in claim 11, further including a

controller being communicatively connected with the second monitor photo-diode and being configured to determining a power level of the amplified optical signal received from the second stage based on the detected power level of the reflected partially-uncoupled optical signal.

13. (Previously Presented) The apparatus as set forth in claim 12, wherein the controller is configured to determine, as a function of the detected power level of the ASE light, a power level of the optical signal before amplification by the SOA.

14. (Currently Amended) A semiconductor optical amplifier (SOA) module apparatus for amplifying an optical signal received from an input optical fiber, and transmitting the amplified optical signal to an output optical fiber, comprising:

a semiconductor optical amplifier (SOA) having a first stage and a second stage, the SOA being configured to amplify an optical signal applied to the first stage, to output the amplified optical signal at the second stage, and to output an ASE (Amplified Spontaneous Emission) light at the first stage;

a first monitor photo-diode;

an input unit having a first isolator that is configured to transmit an input optical signal to the first stage of the SOA, to separate the ASE light received from the first stage of the SOA from a traveling path of the input optical signal at a prescribed angle, and to transmit the ASE light separated from the traveling path through the first isolator and to the first monitor photo-diode;

wherein the SOA includes a cleaved region for diverting the ASE light from the traveling path of the input optical signal; and wherein the first monitor photo-diode is configured to receive and detect a power level of the separated ASE light and the first monitor photo-diode is

disposed at a predetermined angle relative to the first isolator which is not along an optical axis between the input optical fiber and the SOA;

an output unit configured to converge the amplified optical signal received from the SOA onto one end of the output optical fiber; and

a controller being in communicative connection with the first monitor photo-diode, the output unit, and the SOA, and being configured to regulate a level of amplification of the SOA.

15. (Previously Presented) The apparatus as set forth in claim 14, wherein the controller is configured to determine a power level of the optical signal as a function of the detected power level of the ASE light.

16. (Previously Presented) The apparatus as set forth in claim 14, further comprising:

a second monitor photo-diode configured to detect an uncoupled optical signal emitted from the output unit without being transmitted to the one end of the output optical fiber.

17. (Previously Presented) The apparatus as set forth in claim 14, wherein the first isolator is configured to transmit the input optical signal to the first stage, and wherein the output unit includes:

a first collimating lens system configured to collimate the amplified optical signal received from the second stage of the SOA;

a second isolator configured to transmit the amplified optical signal received from the second collimating lens system, to separate a partially-uncoupled optical signal from a traveling path of the amplified optical signal at a prescribed angle, and to transmit the uncoupled optical signal separated from the traveling path;

a first convergence lens system being disposed to converge the amplified optical signal received from the second isolator onto one end of the output optical fiber; and

a first glass window being disposed between the second isolator and the second convergence lens system, the second glass window being configured to transmit the collimated amplified optical signal to the second convergence lens system.

18. (Previously Presented) The apparatus as set forth in claim 17, further comprising a second monitor photo-diode being configured to receive and detect a power level of the separated partially-uncoupled optical signal.

19. (Previously Presented) The apparatus as set forth in claim 18, wherein the controller is configured to determine a power level of the amplified optical signal received from the second stage based on the detected power level of the separated partially-coupled optical signal.

20. (Previously Presented) The apparatus as set forth in claim 19, wherein the separation of the optical signal is performed by refracting the optical signal.

21. (Previously Presented) The apparatus as set forth in claim 4, wherein the second monitor photo-diode is disposed at a predetermined angle relative to the second isolator.

22. (Previously Presented) The apparatus as set forth in claim 16, wherein the second monitor photo-diode is disposed at a predetermined angle relative to the second isolator.